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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/283,233	04/01/1999	TADAKUNI NARABU	SON-1532	9698

7590 10/22/2003

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EXAMINER

WILSON, JACQUELINE B

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/283,233

Applicant(s)
Narabu

Examiner
Jacqueline Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 16, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION II

Response to Amendment

1. The declaration filed on 07/16/03 under 37 CFR 1.131 is sufficient to overcome the Ochi (US 6,426,776) reference.

Response to Arguments

2. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

The examiner has relied on another reference (Kenji JP 08070407) to replace Ochi (6,426,776). Please see new ground of rejections below.

Claim Rejections - 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 5 rejected under 35 U.S.C. 102(b) as being anticipated by Kenji (JP 08070407).

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Regarding Claim 1, Kenji teaches a mirror body (5) which is designed in a polygonal prism form and formed of mirror faces on the side peripheral surfaces thereof to reflect image pickup light from a subject at a mirror face, and a linear sensor (4) for taking therein the image pickup light reflected from each mirror face of the mirror body and subjecting the image pickup light thus taken to photoelectric conversion (see Constitution). Kenji further discloses the mirror body is disposed so that the length direction is substantially parallel to the length direction of the linear sensor, and provided so as to be rotatable around the center of a plane (disclosed in Constitution) which is substantially perpendicular to the length direction of the mirror body (see Fig. 1 for illustration).

Regarding Claim 4, Kenji discloses the linear sensor converts the image into an electric signal and outputting the image data in an image processing part (see Constitution). This is interpreted as a communication means for communicating image pickup information output from the linear sensor to the outside.

Regarding Claim 5, although Kenji teaches an linear image pickup sensor, it is not specifically disclosed that the linear sensor is constructed by a semiconductor image pickup element. However, it is notoriously well known in the art for sensors to be made up on a semiconductor substrate for accumulating charges for producing images and thus would have been obvious, if not inherent, for the sensor in Kenji to also be constructed by a semiconductor image pickup element. (Official Notice)

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Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenji and Jones (US 5,993,077).**

Regarding Claim 2, Kenji does not specifically teach a housing in which the mirror body and linear sensor are accommodated, and a slender incidence window for passing the image pickup light therethrough into the housing is formed so that the length direction thereof is substantially parallel to the length direction of the mirror body. However, as shown in figure 1 of Kenji, one having ordinary skill would recognize that the elements of the image pickup device are housed in a unit in which an incidence window would be present in order to receive light from the object (1). Since the polygon mirror appears to be parallel to the object being captured, it would have been obvious that the housing would indeed be substantially parallel to the length direction of the mirror body. This provides ample room for the mirror body and for the rotation of the mirror body. Kenji also fails to specifically disclose support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, the support legs being retractably provided in the housing or

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detachably mounted to the housing. Jones'077 teaches that it is well known in the art to have a stand for an optical device, such as a camera (12), which is detachable from the camera. With reference to figure 1, Jones'077 shows a camera (12) mounted on a support with legs (16) formed at the formation side of the incidence window. This aids the user in producing clear images of a scene, in this case for investigation purposes (col. 6, lines 28+). Therefore, it would have been obvious to one having ordinary skill in the art to have support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, the support legs being retractably provided in the housing or detachably mounted to the housing.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenji and Kashitani (US 5,757,518).

Regarding Claim 3, Kenji's abstract does not specifically disclose a storage means for storing image pickup information. However, Kashitani '518 teaches a storage means (referred to image memory 54) for storing image pickup information output from a linear sensor (see fig. 6). This is advantageous so the information maintained for further processing. Storage means are notoriously well known in the art and would have been obvious in the system of Kenji for storing image data. Therefore, it would have been obvious to one having ordinary skill in the art to further include a storage means for storing image pickup information output from the linear

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sensor. An English Translation of Kenji will be obtained confirming whether or not the applicants claimed invention is well known in the art.

8. Claims 6, 8, 9, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al. (US 5,625,183).

Regarding Claim 6, Kashitani et al.'183 teaches a housing (referred to as a scanner unit 4) having a slender incidence window (see fig. 1, 9) to pass image pickup light from a subject therethrough into the housing, a mirror body (10) which has mirror faces for reflecting the image pickup light from the incidence window and rotatably or swingably provided in the housing (15), a linear sensor (referred to as linear CCD 12) for taking the image pickup light reflected from the mirror body to subject the image pickup light to photoelectric conversion, and an illuminator (fig. 1, 7). This light source is present for the purpose of illuminating a scene/object at the time image pickup is performed. Although Kashitani et al.'183 does not teach a plurality of illuminators, It would have been an obvious matter of design choice at the time the invention was made to include a plurality of illuminators as desired by the manufacturer. Therefore, it would have been obvious to one having ordinary skill in the art to modify Kashitani et al.'183 by including a plurality of illuminators for lighting up the subject.

Regarding Claim 8, Kashitani et al.'183 teaches a mirror body is a flat plate (10) having one face or both faces being formed of mirror faces and a shaft (15) formed along the mirror

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body is rotatable or swingable around the shaft and wherein the incidence window (9) is formed so that the length direction is substantially parallel to the shaft of the mirror body (see fig. 1).

Regarding Claim 9, Kashitani et al.'183 teaches a first driving means (control unit 40; col. 3, lines 28+), and a second driving means (col. 3, lines 19+). However, Kashitani et al.'183 fails to specifically disclose a timing signal generating means for outputting timing signals to the first driving means and the second driving means so that the illuminators are successively turned on at a predetermined timing with respect to the rotational or swinging motion of the mirror body. However, it would have been obvious to use a timing signal generating means (within the control unit 40) for outputting timing signals to the first and second driving means. This enables the device to illuminate the object at the appropriate time of scanning an object. Proper lighting conditions would be advantageous while image pickup occurs. Therefore, it would have been obvious to one having ordinary skill in the art to have a timing signal generating means for outputting timing signals to the first and second driving means so that the illuminators are successively turned on at a predetermined time with respect to the rotational or swinging motion of the mirror body.

Regarding Claim 12, Kashitani et al.'183 teaches information output from the linear sensor is sent to the outside (col. 5, lines 36+). This indicates that a communication means is present so that the information is able to be sent to an external device.

Regarding Claim 13, Kashitani et al.'183 teaches a semiconductor image pickup element (referred to as linear CCD image pickup sensor 12).

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9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al.'183 and Kenji.

Regarding Claim 7, Kashitani et al.'183 fails to specifically disclose the mirror body is designed in a polygonal prism. However, Kenji teaches the mirror body is designed in a polygonal prism form (5A) and formed of the mirror faces on all the side peripheral surfaces thereof, and disposed so that the length direction thereof is substantially parallel to the length direction of the sensor (4) and provided so as to be rotatable around the center of a plane (see Constitution) which is substantially perpendicular to the length direction of the mirror body (see fig. 1). By using this polygonal mirror, the optical axis is deflected in a similar manner as the mirror body of Kashitani et al.'183. One having ordinary skill would recognize using Kenji's polygonal mirror will provide an increase in scanning speed compared to a flat mirror body. Therefore, it would have been obvious to one having ordinary skill in the art to use a polygonal mirror in the device of Kashitani et al.'183 as a method of image pickup for providing a higher scan rate.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al.'183 and Jones (US 5,993,077).

Regarding Claim 10, Kashitani et al.'183 fails to disclose support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, the support legs being retractably provided in the housing or

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detachably mounted to the housing. However, Jones'077 teaches that it is well known in the art to have a stand for an optical device, such as a camera (12), which is detachable from the camera. With reference to figure 1, Jones'077 shows a camera (12) mounted on a support with legs (16) formed at the formation side of the incidence window. This aids the user in producing clear images of a scene, in this case for investigation purposes (col. 6, lines 28+). Therefore, it would have been obvious to one having ordinary skill in the art to have support legs which are formed at the formation side of the incidence window of the housing so as to expand from the housing to the outside and support the housing, the support legs being retractably provided in the housing or detachably mounted to the housing.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kashitani et al.'183 and Kashitani (US 5,757,518).

Regarding Claim 11, Kashitani et al.'183 does not specifically disclose a storage means for storing image pickup information. However, Kashitani '518 teaches a storage means (referred to image memory 54) for storing image pickup information output from a linear sensor (see fig. 6). This is advantageous so the information maintained for further processing. Storage means are notoriously well known in the art and would have been obvious in the system of Kashitani et al.'183 for storing image data. Therefore, it would have been obvious to one having ordinary skill in the art to further include a storage means for storing image pickup information output from the linear sensor.

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Conclusion

12. Any inquiries concerning this communication from the examiner should be directed to **Jacqueline Wilson** whose telephone number is (703) 308-5080. The examiner can normally be reached Monday-Friday (alternate Fridays off) from 9:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wendy Garber**, can be reached at (703) 305-4929. The fax number for this group is (703) 872-9314.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or Faxed to:

(703) 872-9314, (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, V.A., Sixth Floor (Receptionist).

JBW

October 8, 2003


NGOC-YEN VU
PRIMARY EXAMINER